

Wet and warm for much of New Zealand

Rainfall	Over double the normal November rainfall total (>200% of normal) was recorded for parts of Waikato, Bay of Plenty, central North Island, Hawke's Bay, Taranaki, Wellington, Nelson and Tasman. Other areas that experienced above (120-149% of normal) or well above normal rainfall (>149% of normal) were the remainder of the North Island except for the Far North, East Cape, and western Waikato. Most of Marlborough, Canterbury and Buller also experienced above or well above normal rainfall. Well below normal rainfall (<50% of normal) was experienced in much of Southland, Fiordland, and the southern half of the West Coast. Rainfall was near normal (80-119% of normal) or below normal (50-79% of normal) for the remainder of the country (the Far North, western Waikato, Otago, and the central West Coast).
Soil Moisture	As at 30 November, soil moisture levels were higher than normal for most of the North Island south of Hamilton, as well as Nelson-Tasman. Soil moisture levels were lower than normal for much of Northland to northern Waikato and the southern half of the South Island.
Temperature	Temperatures were well above average (>1.20°C above average) for areas of eastern Northland, Auckland, Coromandel, Bay of Plenty, Taranaki, Gisborne, and the West Coast. For most other parts of New Zealand, temperatures were above average (0.51-1.20°C above average), except for Wellington, Marlborough and parts of Canterbury which had near average ($\pm 0.50^\circ\text{C}$ of average) temperatures.

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Overview

November 2020 was a wet and warm month for much of New Zealand, with the rainfall and temperature patterns strongly influenced by La Niña. Mean sea level pressure was slightly higher than normal to the west and south of New Zealand, resulting in weak air flow anomalies. Some very heavy rainfall events and flooding occurred in the North Island (particularly in Napier, New Plymouth, Te Awamutu, and Porirua) throughout the month, associated with humid and moist air masses. Impacts of these rainfall events are covered in the *Highlights and extreme events* section. In contrast, the southwestern part of the South Island was relatively sheltered from these air masses, which resulted in a dry November. The tropically-derived air masses, in addition to warmer than average coastal sea surface temperatures, were also responsible for the higher than average temperatures experienced across most of the country during November.

Further Highlights:

- The highest temperature was 29.9°C, observed at Waiau on 13 November.
- The lowest temperature was -2.8°C, observed at Tara Hills on 28 November.
- The highest 1-day rainfall was 242 mm, recorded at Napier on 9 November.
- The highest wind gust was 189 km/h, observed at Cape Turnagain on 1 November.
- Of the six main centres in November 2020, Auckland was the warmest, Dunedin was the coolest, driest, and sunniest, and Wellington was the wettest and least sunny.
- Of the available, regularly reporting sunshine observation sites, the sunniest four locations in 2020 so far are Bay of Plenty (2403 hours), Greater Nelson (2351 hours), Marlborough (2344 hours), and Taranaki (2314 hours).

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Rainfall: Very wet for much of the North Island

November rainfall was strongly influenced by humid northerly air masses, encouraged by ongoing La Niña conditions. Much of the North Island and northern South Island experienced high rainfall totals, with over double the normal November total (>200% of normal) experienced in areas of the Bay of Plenty, Hawke's Bay, central North Island, Taranaki, Wellington, Nelson and Tasman. In fact, Napier experienced over six times its normal November rainfall total, driven primarily by the flooding event on 9 November (see more about this event in the *Highlights and Extreme Events* section). Four locations recorded their wettest November on record: Napier, Te Puke, Wellington Airport, and Richmond. An additional 14 locations had rainfall totals in the top-four wettest Novembers on record.

In contrast, due in part to the sheltering from slightly more easterly-quarter winds than normal, it was a dry November for much of the lower South Island, with parts of the West Coast and Southland experiencing well below normal rainfall (<50% of normal). Tiwai Point experienced its 4th-driest November with only 36% of normal rainfall recorded.

Record¹ or near-record November rainfall totals were recorded at:

Location	Rainfall total (mm)	Percentage of normal	Year records began	Comments
High records or near-records				
Te Puke	282	275	1973	Highest
Napier	325	601	1870	Highest
Wellington (Airport)	195	260	1958	Highest
Richmond	281	359	1862	Highest
Turangi	256	204	1968	2nd-highest

¹ The rankings (1st, 2nd, 3rd.etc) in all Tables in this summary are relative to climate data from a *group* of nearby stations, some of which may no longer be operating. The current climate value is compared against all values from any member of the group, without any regard for homogeneity between one station's record, and another. This approach is used due to the practical limitations of performing homogeneity checks in real-time.

New Plymouth	287	275	1944	2nd-highest
Martinborough	186	300	1924	2nd-highest
Wellington (Kelburn)	247	252	1928	2nd-highest
Motueka	276	280	1943	2nd-highest
Masterton	193	280	1926	3rd-highest
Paraparaumu	193	246	1945	3rd-highest
Takaka	345	216	1976	3rd-highest
Nelson	212	271	1862	3rd-highest
Appleby	192	192	1932	3rd-highest
Auckland (North Shore)	165	204	1966	4th-highest
Dannevirke	154	175	1951	4th-highest
Stratford	322	211	1960	4th-highest
Whanganui	162	215	1890	4th-highest
Low records or near-records				
Tiwai Point	31	36	1970	4th-lowest

Temperature: Warm throughout most of New Zealand

The nationwide average temperature in November 2020 was 14.6°C. This was 0.9°C above the 1981-2010 November average from NIWA's seven station temperature series which begins in 1909. It has now been 46 consecutive months since New Zealand experienced a nationwide temperature that was below average.

Motueka recorded its warmest November on record, with observations going back to 1956. An additional 17 locations saw near-record mean temperatures for November. Several locations also recorded near-record high mean maximum (daytime) and mean minimum (night-time) temperatures.

Record or near-record mean air temperatures for November were recorded at:

Location	Mean air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Motueka	15.9	1.7	1956	Highest
Te Puke	16.6	1.7	1973	2nd-highest
Takaka	15.3	1.3	1978	2nd-highest
Leigh	17.7	1.5	1966	3rd-highest
Whangaparaoa	17.3	1.2	1982	3rd-highest
Motu	13.9	1.9	1990	3rd-highest
Auckland (Airport)	17.6	1.4	1959	3rd-highest
Hawera	14.4	1.3	1977	3rd-highest
Whangarei	17.8	1.3	1967	4th-highest
Whitianga	17.3	1.5	1962	4th-highest
Matamata	15.9	1.4	1999	4th-highest
Gisborne	17.6	1.9	1905	4th-highest
Wairoa	17.8	2.1	1964	4th-highest
Levin	15.4	1.4	1895	4th-highest
Arapito	15.1	1.6	1978	4th-highest

Milford Sound	13.6	1.4	1934	4th-highest
Cheviot	14.3	1.3	1982	4th-highest
Low records or near-records				
None observed				

Record or near-record mean maximum air temperatures for November were recorded at:

Location	Mean maximum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Whangarei	23.0	2.4	1967	2nd-highest
Whangaparaoa	21.1	1.6	1982	3rd-highest
Whitianga	22.6	2.4	1962	3rd-highest
Motu	18.9	2.3	1990	3rd-highest
Leigh	22.5	3.3	1966	4th-highest
Te Puke	21.2	1.2	1973	4th-highest
Greymouth	18.2	1.7	1947	4th-highest
Milford Sound	18.3	1.5	1934	4th-highest
Low records or near-records				
None observed				

Record or near-record mean minimum air temperatures for November were recorded at:

Location	Mean minimum air temp. (°C)	Departure from normal (°C)	Year records began	Comments
High records or near-records				
Motueka	11.3	2.7	1956	Highest
Cape Reinga	13.9	1.2	1951	2nd-highest
Te Puke	11.9	2.0	1973	2nd-highest
Motu	8.8	1.4	1990	2nd-highest
Hawera	11.1	1.6	1977	2nd-highest
Gisborne	12.3	1.9	1905	3rd-highest
Arapito	11.0	1.8	1978	3rd-highest
Port Taharoa	14.0	2.0	1973	Equal 3rd-highest
Whakatane	12.2	1.5	1974	4th-highest
New Plymouth	12.2	1.6	1944	4th-highest
Lower Retaruke	10.3	2.1	1966	4th-highest
Wairoa	12.6	2.1	1964	4th-highest
Mahia	12.4	0.9	1990	4th-highest
Porirua	11.4	0.9	1968	4th-highest
Franz Josef	9.0	1.4	1953	4th-highest
Milford Sound	9.2	1.7	1934	4th-highest
Nugget Point	8.7	1.2	1970	4th-highest
Low records or near-records				
None observed				

November climate in the six main centres

November rainfall was well above normal in Hamilton, Wellington, and Christchurch, above normal in Auckland and Tauranga, and below normal in Dunedin. Wellington recorded over two-and-a-half times its normal November rainfall, making it the second-wettest November on record there, as measured since 1928 at Kelburn. Temperatures were well above average in Auckland and Tauranga, above average in Hamilton and Dunedin, and near average in Wellington and Christchurch. Of the six main centres in November 2020, Auckland was the warmest, Dunedin was the coolest, driest, and sunniest, and Wellington was the wettest and least sunny.

November 2020 main centre climate statistics:

Temperature			
Location	Mean temp. (°C)	Departure from normal (°C)	Comments
Auckland ^a	17.3	+1.2	Well above average
Tauranga ^b	17.2	+1.3	Well above average
Hamilton ^c	15.7	+1.0	Above average
Wellington ^d	13.6	+0.2	Near average
Christchurch ^e	14.0	+0.5	Near average
Dunedin ^f	13.5	+1.1	Above average
Rainfall			
Location	Rainfall (mm)	% of normal	Comments
Auckland ^a	97	148	Above normal
Tauranga ^b	106	143	Above normal
Hamilton ^c	166	186	Well above normal
Wellington ^d	247	252	Well above normal (2 nd highest)
Christchurch ^e	72	155	Well above normal
Dunedin ^f	44	78	Below normal
Sunshine			
Location	Sunshine (hours)		
Auckland ^a	212		
Tauranga ^b	222		
Hamilton ^g	176		
Wellington ^d	133		
Christchurch ^e	181		
Dunedin ^f	223		

^a Mangere ^b Tauranga Airport ^c Hamilton Airport ^d Kelburn ^e Christchurch Airport ^f Musselburgh ^g Ruakura

Highlights and extreme events

Rain and slips

On 8 November steady rainfall in Wellington and Nelson brought about several reports of flooding and downed trees.

On 9 November a local state of emergency was declared in Napier due to widespread flooding causing landslips, power cuts and evacuations. 3300 homes were without power overnight and at least 14 roads and streets were closed due to slips. Napier's Nelson Park recorded 242.4 mm of rain on that day which was the wettest November and wettest spring day on record for Napier, with records going back to 1870. It was the second-wettest day in the entire record (the record is 297 mm on 3 June 1963). The rain caused damage to structures in impacted areas such as Napier Hill and the suburbs of Maraenui, Marewa and Pirimai, ranging from minor to severe.

On 24 November New Plymouth had its second-wettest November day on record with rain continuing on 25 November. The rain caused widespread flooding, road closures and sewage overflows.

On 25 November thunderstorms and a burst of heavy rain caused flooding in Te Awamutu. A café roof collapsed and several stores suffered water damage due to the event. Rain also caused a slip to partially block State Highway 3, south of Hāwera.

On 29 November heavy rain in Plimmerton combined with a high tide to render more than a dozen homes uninhabitable due to flooding.

Record or near-record November extreme 1-day rainfall totals were recorded at:

Location	Extreme 1-day rainfall (mm)	Date of extreme rainfall	Year records began	Comments
Napier	242	9th	1870	Highest
Te Puke	102	10th	1973	2nd-highest
New Plymouth	82	24th	1944	2nd-highest
Waiouru	40	9th	1950	3rd-highest
Masterton	54	9th	1926	4th-highest
Hawera	49	24th	1977	4th-highest
Motueka	84	7th	1956	4th-highest
Akaroa	52	7th	1977	4th-highest

Temperatures

The highest temperature was 29.9°C, observed at Waiau School on 13 November. This marks the first time in 9 years (since 2011) that New Zealand did not have a maximum temperature at or above 30°C during the month of November.

The lowest temperature was -2.8°C, observed at Tara Hills on 28 November.

Record or near-record daily maximum air temperatures for November were recorded at:

Location	Extreme maximum (°C)	Date of extreme temperature	Year records began	Comments
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High records or near-records				
Farewell Spit	25.5	29th	1971	3rd-highest
Te Anau	26.5	25th	1963	3rd-highest
Low records or near-records				
Whanganui	11.3	9th	1972	3rd-lowest
Porirua	13	8th	1972	4th-lowest
Hawera	11	10th	1977	4th-lowest

Record or near-record daily minimum air temperatures for November were recorded at:

Location	Extreme minimum (°C)	Date of extreme temperature	Year records began	Comments
High records or near-records				
Whangarei	18.8	4th	1967	Equal 2nd-highest
Auckland (Whenuapai)	17.9	4th	1951	Equal 2nd-highest
Auckland (Western Springs)	18.5	4th	1971	3rd-highest
Hicks Bay	17.1	27th	1972	3rd-highest
Franz Josef	14.6	5th	1953	3rd-highest
Puysegur Point	14.9	15th	1978	4th-highest
Ashburton	18.0	5th	1928	4th-highest
Te Anau	14.3	15th	1973	4th-highest
Kaitaia	18.3	4th	1948	Equal 4th-highest
Whangaparaoa	17.1	4th	1982	Equal 4th-highest
Port Taharoa	17.6	4th	1974	Equal 4th-highest
Upper Hutt	16.4	5th	1972	Equal 4th-highest
Reefton	15.1	5th	1972	Equal 4th-highest
Low records or near-records				
None observed				

Wind

The highest wind gust was 189 km/h, observed at Cape Turnagain on 1 November.

On 5 November the NZTA advised trucks, vans and motorbikes to avoid travelling over the Auckland Harbour bridge due to high winds.

On 21 November strong winds affected Otago and Southland and led to downed trees, roofs lifting and widespread power outages. A Fire and Emergency New Zealand spokesman said it was called to 17 wind-related callouts in Southland and 16 in Otago. Strong winds caused part of the spire at St Patrick's Catholic Church in Rimu St, Invercargill, to come loose and the area was cordoned off to protect the public. Strong winds on the Otago Peninsula contributed to a fire in Portobello. 28 residents from 14 houses were evacuated to Portobello's Coronation Hall.

Record or near-record November extreme wind gusts were recorded at:

Location	Extreme wind gust (km/h)	Date of extreme gust	Year records began	Comments
Secretary Island	145	21st	1994	2nd-highest

Invercargill	113	21st	1972	3rd-highest
Dunedin (Airport)	106	21st	1972	Equal 4th-highest

Snow and ice

On 8 November snow fell to low levels in the South Island. A dusting of snow fell at Tekapo.

Lightning and hail

Between 8 – 10 November in excess of 3,000 lightning strikes were observed over the North Island and just offshore. The thunderstorms also brought hail to Auckland on 9 November.

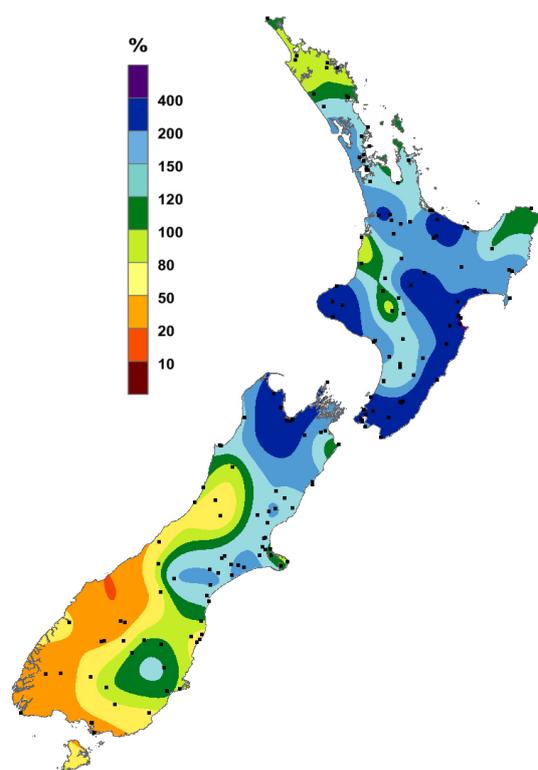
On 25 November a flight from Wellington to Hamilton was diverted to Auckland after a suspected lightning strike. Over 200 lightning strikes were recorded over Waikato.

For further information, please contact:

Nava Fedaeff

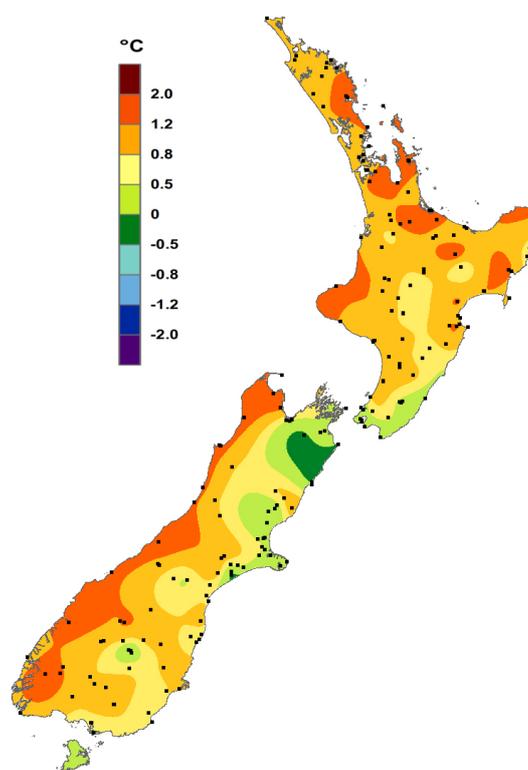
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November rainfall

Expressed as a percentage of the 1981-2010 normal.



November temperature

Expressed as a departure from the 1981-2010 average in degrees Celsius.

<https://www.niwa.co.nz/our-science/climate>

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